



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/985,954	11/06/2001	Marcus Pfeifer	33766W064	4175

7590

10/21/2005

David A. Kalow
Kalow & Springut LLP
488 Madison Avenue
19th Floor
New York, NY 10022

EXAMINER

TRAN, HIEN THI

ART UNIT

PAPER NUMBER

1764

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/985,954	PFEIFER ET AL.	
	Examiner	Art Unit	
	Hien Tran	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,11-15 and 17-28 is/are pending in the application.
- 4a) Of the above claim(s) 19-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,11-15,17 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-4,11-15 and 17-28 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/4/05</u> . | 6) <input checked="" type="checkbox"/> Other: <u>translation of DE 198 06 062</u> . |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 11, 15, 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 11, it is unclear as to which catalyst is implied (note two catalysts in amended claim 1).

In claim 17, the dependency of the claim should be amended since claim 16 has been cancelled.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2, 11, 13 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 666,099.

With respect to claims 1-2, EP 666,099 discloses an exhaust gas treatment unit comprising: at least one catalyst having a refractory inorganic oxide, e.g. titania, a catalytically active component for selective catalytic reduction, e.g. vanadium, and at least one storage component for nitrogen oxides selected from the group consisting of an alkali metal, e.g. lithium,

Art Unit: 1764

sodium, potassium, etc., an alkali earth metal, e.g. barium, calcium (see, for example, page 4, lines 5-55). EP 666,099 further discloses that an oxidation catalyst is located in the exhaust gas treatment unit, upstream of the catalyst (see, for example, page 9, lines 51-54).

With respect to claims 11, 13, EP 666,099 discloses that the catalyst is present in form of a honeycomb structure specified as a full extrudate or in the form of coating on an inert carrier honeycomb structure (see, for example, page 8, line 45 to page 9, line 6).

Instant claims 1-2, 11, 13 structurally read on the apparatus of EP 666,099.

5. Claims 1-4, 13 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 723,805.

With respect to claims 1-2, EP 723,805 discloses an exhaust gas treatment unit comprising: at least one catalyst with a catalytically active component for selective catalytic reduction, such as vanadium-titanium dioxide and at least one storage component for nitrogen oxides including noble metal, such as platinum, etc., and at least one of alkali earth metal, alkali metal, etc. (see, for example, page 9, lines 48-58; page 11, lines 54-58, page 12, lines 36-45). EP 723,80 further discloses that an oxidation catalyst 3 is located in the exhaust gas treatment unit, upstream of the catalyst.

With respect to claims 3-4, EP 723,805 discloses that the catalytically active component also contains acid form of zeolite (see, for example, page 10, lines 1-9).

With respect to claim 13, EP 723,805 discloses that the catalyst also comprises support oxide, such as alumina and the catalyst is present in form of coating on an inert carrier honeycomb structure (see, for example, page 7, lines 30-34).

Instant claims 1-4, 13 structurally read on the apparatus of EP 723,805.

Art Unit: 1764

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. The art area applicable to the instant invention is that of catalytic converter.

One of ordinary skill in this art is considered to have at least a B.S. degree, with additional education in the field and at least 5 years practical experience working in the art; is aware of the state of the art as shown by the references of record, to include those cited by applicants and the examiner (*ESSO Research & Engineering V Kahn & Co*, 183 USPQ 582 1974) and who is presumed to know something about the art apart from what references alone teach (*In re Bode*, 193 USPQ 12, (16) CCPA 1977); and who is motivated by economics to depart from the prior art to reduce costs consistent with the desired product characteristics. *In re Clinton* 188 USPQ 365, 367 (CCPA 1976) and *In re Thompson* 192 USPQ 275, 277 (CCPA 1976).

Art Unit: 1764

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP 723,805 in view of EP 666,099 and DE 198 06 062.

The apparatus of EP 723,805 is substantially the same as that of the instant claims, but fails to disclose the specific arrangement of the catalytically active component and the nitrogen oxide storage component in the catalyst.

EP 666,099 discloses that the catalyst is present in form of a honeycomb structure specified as a full extrudate or in the form of coating on an inert carrier honeycomb structure (see, for example, page 8, line 45 to page 9, line 6).

DE 198 06 062 discloses an exhaust gas treatment unit comprising: at least one catalyst with a catalytically active component for selective catalytic reduction and at least one storage component for nitrogen oxides (claims 1-3); and the catalyst is present in form of a honeycomb structure specified as a full extrudate or in the form of coating on an inert carrier honeycomb structure (page 5 of the translation). DE 198 06 062 discloses that the catalytically active component comprises titanium dioxide, vanadium, molybdenum oxide and tungsten oxide (claim 3).

However, at the time of the invention was made, it would have been obvious to one skilled in the art to arrange the layers for the catalyst since positioning the parts of the apparatus is no more than a design choice, and well within the knowledge of one skilled in the art as evidenced by EP 666,099 and DE 198 06 062 and since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

10. Claims 12, 14-15, 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 723,805 in view of DE 198 06 062 and EP 935,055.

Art Unit: 1764

The apparatus of EP 723,805 is substantially the same as that of the instant claims, but fails to disclose the specific arrangement of the catalytically active component for reducing nitrogen oxide and the nitrogen oxide storage component in the catalyst.

However, the same teachings of DE 198 06 062 apply.

Similar, EP 935,055 discloses an exhaust gas treatment unit comprising: at least one catalyst 12 with a catalytically active component for selective catalytic reduction, and at least one storage component for nitrogen oxides, such as an alkali metal, an alkali earth metal, etc. (see, for example, page 5, section 0017). EP 935,055 further discloses the catalytically active component contains at least one zeolite being exchanged with metal ion (see, for example, section 0019) and the catalyst is present in form of a honeycomb in the form of coatings on an inert carrier honeycomb structure (see, for example, page 6, sections 0017-0019, 0024).

At the time of the invention was made, it would have been obvious to one skilled in the art to arrange the layers for the catalyst since positioning the parts of the apparatus is no more than a design choice, and well within the knowledge of one skilled in the art as evidenced by DE 198 06 062 and EP 935,055 and since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

With respect to claims 17-18, the catalyst 7a of the plurality of catalysts 7a-c in EP 723,805 is considered as a hydrolysis catalyst, and the catalyst 7c of the plurality of catalysts 7a-7c or the catalyst 8 is considered as an ammonia barrier catalyst.

Response to Arguments

11. Applicant's arguments filed 8/4/05 have been fully considered but they are not persuasive.

Applicants argue that the nitrogen oxide storage material in the DE reference, Neufert, primarily stores nitrogen oxides physically by adsorption, not chemically as that of the instant claims. Such contention is not persuasive as the language of the instant claims is not commensurate in scope with such argument.

Applicants argue that EP 666,099 reference, Tsuchitani, does not address selective catalytic reduction. Such contention is not persuasive as Tsuchitani discloses provision of a catalyst for reducing nitrogen oxides comprising the same catalyst for reducing nitrogen oxides and the same storage component for nitrogen oxides as that of the instant claims and therefore the catalyst of Tsuchitani meets the instant claims.

Applicants argue that Tsuchitani discloses the use of hydrocarbons as reducing agents for reducing nitrogen oxides in an oxidizing atmosphere, a process much less selective than the SCR employing ammonia. Such contention is not persuasive since Tsuchitani also discloses other types of reducing agent, such as urea, ammonia (page 5, lines 31-33).

Applicants argue that the EP 723,805, Kinugasa, shows the catalyst are spatially separate entities while the instant claims include both components for SCR and component for nitrogen oxide storage in one catalyst member. Such contention is not persuasive as the language of the instant claim is not commensurate in scope with such arguments, e.g. the claims do not require any spatial relationship between the catalyst components and therefore the catalyst of Kinugasa meets the instant claims.

Applicants argue that mixing the catalyst components for the SCR with the components of an oxidation catalyst would deteriorate the SCR ability because ammonia would be preferably oxidized by the oxidation component. Such contention is not persuasive as the examiner did not

Art Unit: 1764

use any prior art for suggesting mixing the catalyst components for the SCR with the components of an oxidation catalyst.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 1764

Zurbig et al and Konrad et al are cited for showing state of the art.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is (571) 272-1454. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1454. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hien Tran

HT

Hien Tran
Primary Examiner
Art Unit 1764